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THE SIGNIFICANCE OF THE DECREASING PROPORTION OF CHILDREN

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The period during which population and vital statistics of civilized nations have been available has been too brief to measure the relationship which doubtless exists between the material condition of a nation and increase or decrease of population. Each nation of Europe offers to the student a substantially accurate record of events for more than a thousand years, but statistics of population, even moderately correct, exist but for a century at best, and in some nations for a much shorter period.

In the United States alone will it be possible in succeeding years to trace such relation as exists between the growth and prosperity of the republic and the increase or decrease of population. The beginning of census taking was practically coincident with the establishment of the Federal Government, and should a periodic count of inhabitants continue, as it doubtless will so long as the republic endures, ours will prove to be the only important nation now in existence in which an accurate periodic count of inhabitants has been maintained throughout its entire history.

After the lapse of 110 years of census taking in the United States (from 1790 to 1900) certain well-defined facts have already appeared that are of consequence, since they may indicate influences at work within the social structure of the nation. It is a well-known fact that in the face of generous additions due to immigration the percentage of increase in the aggregate population has steadily diminished; obviously some element of the population has decreased its contribution of births so decidedly as to affect the percentage of total increase though aided by immigration. The returns of the census and the private investigations of leading American statisticians have for many years pointed to the original population element in the United States as the one in which decrease is most pronounced. There is reason to believe that the diminution in the birth rate in this large segment of the population of the

republic has not been arrested, but that it continues in progress. Since the various elements which composed the population of the United States are thus increasing unequally, the statistical problem of greatest importance to the nation is not mere increase in aggregate population, but it is rather what percentages of increase, if any, the various elements,—the distinctly native stock, the native by one generation, the foreign born and the different nationalities of foreign born,—are contributing to the population of the republic.

Unfortunately the Federal Census Office is not able to make a satisfactory response to this question. After the completion of the approaching census it may be possible to prepare a study upon this subject, but thus far the data have been available only in small part.

While this paper cannot, therefore, from the nature of the case deal satisfactorily with the great subject of the significance of diminishing birth rate, attention may be called to certain important facts about to become available through a publication of the Census Office now in press, an abstract of which has already been made public and has aroused much discussion.

The writer, acting under the instruction of the Director of the Census, has attempted in the volume in question to analyze the returns of the first census of the United States in accordance with modern standards of statistical interpretation and to draw from the analysis significant facts, were they found to exist, bearing especially upon the family relationship and the proportion of children to adults. It was found upon a careful examination of the detailed returns of the first census that a surprisingly large amount of statistical material could be derived from the five simple questions incorporated upon the schedules, and as the analysis progressed some of the changes which had occurred during the century proved very striking and significant.

At the first census but one age classification was secured, white males being separated into two groups, those under 16 years of age and those 16 years of age and over. It was obvious that for statistical purposes this single arbitrary age group possessed little value. But it was also evident that it was entirely possible to secure, even to a degree of scientific accuracy, the number of females in the corresponding age groups by instituting tests which should show the degree of uniformity or otherwise of the proportion which the males under 16 years formed of all males at that census as compared

with the succeeding census (1800), when females were also segregated by the two age groups employed for males in 1790. It was found that substantially no variation existed, and this fact was believed to justify an application of the proportion which females under 16 formed of all females in 1800, by states, to the total females by states in 1790. Accordingly such a computation was made, and there can be no doubt of its substantial accuracy.

With a separation thus available of white males and females into two groups, which may be termed children and adults, it is obviously possible to institute certain comparisons in the proportion which these two groups formed at the first census and at the twelfth, taken 110 years later. In 1790 there were 1,553,260 white persons under 16 years of age and 1,619,184 of 16 years of age and over. In 1900 the number was 23,846,810 and 43,046,595, respectively. Thus the number of persons under 16 years apparently increased 1435 per cent., but the number of persons 16 years of age and over increased 2559 per cent., an increase well nigh double that shown for the younger age group. In 1790 the number of white persons under 16 years of age comprised 49 per cent. of the entire white population. In 1900 the white persons in the same age group comprised but 35.6 per cent. of the entire white population. This figure shrinks in some of the states to a proportion as low as 27.5 per cent., or scarcely more than one-quarter, a proportion which is little more than half that formed by young persons in similar localities in 1790.

The question at once presents itself whether a part of the reduction thus shown, based upon the total white population, may not be attributable to the arrival in the last decade of the nineteenth century of great numbers of immigrants, a large proportion of whom were doubtless over 16 years of age. Upon analysis it was found that the influence of generous adult immigration upon the proportions considered had been offset by the higher birth rate among immigrants, and hence that the proportion shown for 1900 had not been materially affected by immigration.

While the increase or decrease in the birth rate at the two census periods, 1790 and 1900, appears to have been the principal factor in determining the proportion above and below the age classification of 16 years, increased longevity is another factor which might be supposed to exert some influence upon the proportion in

the respective classes in 1900 as compared with 1790. The average age of the population has increased materially since 1790 from recognized causes which need not be here specified. It is not probable, however, that the increased longevity has materially affected the percentages shown above. The advance in medical and sanitary skill applies with even greater force to the preservation of infant life than it does to that of adult life. The increase in the average age, indeed, is due in large part to the preservation or prolongation of infant life, since a marked decrease in infant mortality would, of course, promptly affect average longevity.

The most decided changes in 1900 in the proportion of children to adults as compared with the proportion shown in 1790 appear in the New England states. The change is least marked in the Southern states, which have been little affected by immigration during the century and in which the white population has maintained a much larger proportion of increase than in other geographic areas. In 1790 seven out of seventeen states and territories enumerated showed a proportion of more than half the entire white population under 16 years of age, while the lowest proportion shown by any state or territory at that census was that for Maryland, in which state but 45 per cent. of the inhabitants were under 16 years of age. In 1900, however, no state reported a proportion as high as the lowest reported at the first census.

More light is thrown upon this subject by an analysis of the ratio of white adults of self-supporting age to white children. It has been necessary to accept the age of 16 years as a limitation of "children" because of the establishment of that age period at the first census, as already indicated.

The table on page 75 presents the results of such an analysis for each of the censuses from the first to the twelfth.

The striking change here recorded is a practical doubling for the entire white population of the number of adults responsible for the rearing of a child. In other words, in 1790, 780 adults produced and reared 1000 children, but in 1900 the proportion to the same number of children was 1580 adults.

If the analysis here presented is extended to native white children of native parents, a census classification which was made only for the years 1890 and 1900, but which obviously approximates to some degree the element enumerated in 1790, the proportion rises to 1.6 in 1890 and 1.8 in 1900, or 1800 adults to each 1000 children.

In extending the last-mentioned analysis to the various states the investigator is surprised to find that the proportion of adults to children advances in some of the states, especially those of New England, to nearly 3000 adults to each 1000 children.

RATIO OF WHITE ADULTS OF SELF-SUPPORTING AGE TO WHITE CHILDREN.

Census year.	White persons 20 years of age and over.	White children under 16 years of age.	Ratio of white persons under 16 years over to all white children under 16.
1900.....	37,731,536	23,874,711	1.58
1890.....	30,142,614	20,154,222	1.50
1880.....	22,928,219	16,919,639	1.36
1870.....	17,067,310	13,719,431	1.24
1860.....	13,285,502	11,329,812	1.17
1850.....	9,411,330	8,428,451	1.11
1840.....	6,439,609	6,510,857	0.98
1830.....	4,620,478	4,970,210	0.92
1820.....	3,395,049	3,843,703	0.88
1810.....	2,485,176	2,933,211	0.85
1800.....	1,832,327	2,156,201	0.84
1790.....	1,214,388	1,553,265	0.78

In comparison with the change thus indicated in the United States from 1790 to 1900, and in particular with the proportions which existed in 1900, it is interesting to observe the similar proportions shown in Europe.

RATIO OF ADULTS OF 20 YEARS OF AGE AND OVER TO CHILDREN UNDER 16 YEARS OF AGE IN THE PRINCIPAL COUNTRIES OF EUROPE.

France	2.4
Ireland	1.8
England	1.7
Italy	1.6
Scotland	1.6
Austria-Hungary	1.5
Germany	1.5

The adult white population of the United States bears the same relation to the younger element of the population as at least two of the European countries, but if the classification be restricted to the reasonably native element—and hence made more comparable with the European figures—the proportion advances to a figure (1.8) which is next to the highest proportion shown for Europe.

¹Minor adjustment of age classifications.

It must be remembered that the term "proportion of adults to children" is merely one method of measuring the fecundity of the population. The census analysis indicates that when a restriction is introduced, such as excluding as far as possible the foreign element, the proportion advances beyond that shown for the population considered as a whole, clearly indicating that the proportion of children to adults tends to decrease as the foreign or immigrant element is stripped away.

There are countless standpoints from which to view this subject. From one it might be claimed that the people of the United States, taking all into account, have concluded that they are only about one-half as well able to rear children—at any rate, without personal sacrifice—under the conditions which prevailed in 1900 as their predecessors proved themselves to be under the conditions which prevailed in 1790. It is possible also to claim that at the period of the first census the simple living characteristic of a new country, the simple wants supplied by neighborhood industries, and the self-dependency of the family due to sparseness of population, all tended toward large families, while at the present time the complexity of living, congestion of population, dependence on foreign help, and especially the innumerable wants fostered by machine-made goods manufactured upon an enormous scale and ever tempting to greater expenditure, all tend toward restriction of size of family.

In general, however, the evident reason for the decline in proportion of children suggested by the foregoing tables is the fact that at the beginning of the nineteenth century a vast continent with its untold resources awaited development and created what might be termed a population hunger. In Europe, at the same time, the rise of unexampled industrial activity produced, though to a lesser degree, a somewhat similar condition, so that in differing proportion population was stimulated upon both continents. The close of the nineteenth century finds the pressing requirement for surplus population practically satisfied and in some instances more than satisfied, both in the United States and Europe. In this country wide variation in the proportion of children native born of native parents to native adults is shown by the various states. The older communities having already acquired dense population, whether urban or rural, resulting in a more severe struggle for existence, show the highest proportion of adults to children, while in the

younger or more sparsely settled states, or in those in which wide opportunity for the individual still exists, the proportion of children to adults is much greater. The reader, however, is cautioned to remember that in the case of states which have been settled within the last half century natives of such states could not exceed 50 years of age. Hence in these communities the younger age periods would naturally be larger in proportion than the older ones, even though the birth rate were no larger in such states than in the older which apparently show the smallest proportion of children to adults.

The analysis of the returns of the first census obviously made one further step possible in comparing the population in 1790 with that in 1900. It became practicable to consider proportion of children from the standpoint of the family. This analysis developed certain equally striking facts. The average size of the white family in 1790 was 5.8 persons. The average size of white families in 1900 was 4.6. The minimum shown by any state in 1790 was 5.4, with a maximum of 6.4. But in 1900 the minimum was 4.1, shown by a number of states, especially in New England, and the maximum shown by any state was but 5.1, or materially less than the lowest average shown in 1790. The number of children under 16 years of age per white family was 2.8 in 1790 as compared with 1.5 in 1900. In the course of a century the number of comparable households in the United States increased more than tenfold, but the number of white children under 16 years of age increased but little more than sixfold.

The ratio in 1790 of nearly 2 children under 16 to each white female 16 years of age and over declined to 1 in 1900. At the census nearest to 1900 the similar ratio in Great Britain was 1.0; in France, 0.8; in the German empire, 1.1, and in Italy, 1.1. Since the United States, although aided by large numbers of immigrants from all parts of the world, is now maintaining a ratio of children to females 16 years of age and over practically the same as that shown by three of the leading nations of Europe, it is clear that population conditions in the republic are tending to become more in harmony with those obtaining in other civilized countries. The proportion shown for 5 of the New England states and for New York is the same, or nearly the same, as the lowest European ratio—that of France.

On the basis of the proportion shown in 1900 there would

have been 884,000 children in 1790 as compared with more than 1,500,000 actually enumerated; on the other hand, on the basis of the proportion shown in 1790 there would have been 39,500,000 children in continental United States at the twelfth census. The number in reality was less than 24 millions. Hence, if the people of the republic were as prolific at the present time as they were 100 years ago there would have been over 15 million more children in the United States in 1900 than were actually reported.

In the preparation of the census report to which reference has been made it early became evident that the facts in relation to the first census required some analysis of the probable increase of the population enumerated in 1790. Accordingly this subject was considered from several points of view, and the conclusion appears to be justified by the facts presented that the white population enumerated in 1790 had increased in 1900 to approximately 35 millions. As the total white population at that census proved to be 67 millions, the weight of the two general white elements—descendants of those who were enumerated in 1790, and those who arrived in the United States after 1790, or their descendants,—was about equal, or 35,000,000 and 32,000,000 respectively.

Most of the evidence within the reach of thoughtful observers tends to prove that the proportion of children contributed by the foreign element is much greater than that contributed by the native stock. The foreign element, though at present slightly smaller than the native element, is probably offering a larger contribution of children to the younger generations, while the 35 millions of native element is at present making a contribution not much more than enough to sustain itself at the figure mentioned. If the Southern states, which have maintained the purity of the original stock and have contributed a large increase decennially, were withdrawn from the total native stock, it is probable that the remainder might even reveal a decrease.

There are three general periods into which the existence of nations may be divided. The creative or hardship period, the mature or enjoyment period, and the decline or vanishing period. Such a division, of course, cannot be made upon any mechanical or sharply defined lines, and a statement of this kind is, indeed, but another way of phrasing the truism that nations, like individuals, pass through successive stages from creation to decay.

Of the three periods mentioned the United States is doubtless already in the second. In the first or formative period of the nation the entire atmosphere was surcharged with self-sacrifice. The men of the community were subject to the vicissitudes of Indian warfare, to contests with Great Britain, and to privation and death from accident or exposure resulting from breaking a new country. Most of the inhabitants of the republic in 1790 lived in the most primitive fashion, enjoying no luxuries and devoting their lives to unremitting toil. If the head of the household found about him a large number of children claiming his protection and support, the care of them brought but one more demand for self-sacrifice into a life that was largely composed of self-sacrifices. The same influences surrounded the mother, who toiled from early till late; into her narrow life a large number of children brought some pain and anxiety, but also the compensation of maternal affection and increased companionship. Over and above these facts was the conviction generally held by the pious and earnest people of that period, that duty to the state and the community demanded large families without regard to the personal convenience and comfort of parents. This was the formative period of the United States—a time when no sacrifice could be demanded of the individual to which he would not cheerfully respond, because self had not crept into a prominent place.

In 1900 the resources of the nation have been developed to the point of fruition. From various causes the population has become enormous. Wealth has increased to a degree unparalleled elsewhere in the world or in any age. Men and women have rapidly learned to consider themselves first. "Why should we burden ourselves with child raising?" inquire the rich. "It interferes with the freedom of individual action and self-enjoyment." One or two children for the most part are the rule in such households, if they are not indeed entirely childless. The middle classes adopt another argument: "We cannot afford to rear children," they say. "The pressure of competition is so great that it means infinite sacrifice for the parents, a lifetime of self-denial, inability to get on in the world because of the handicap which a young family brings, and, furthermore, if there are many children they cannot be given the advantages of polite education." In the lower classes fertility has continued high until the present time, but they also are rapidly falling into line with the argument of the middle class. The volun-

tary restriction of family has become apparent in all classes of society and in all civilized nations.

The decrease in the birth rate in the United States obviously marks a complete change in the social system in the republic since the first census was taken in 1790. It reflects the change which unquestionably has occurred in the conception of duty and responsibility on the part of the individual. Duty to the state is probably never considered. It is not enough to reply that intensive child raising is better at this period than large families. In general an only child is usually the victim of false ideas of life, and almost necessarily selfish and self-centered. But if the limited human product which is now being contributed were actually better than a large product, the fact of greatest importance is the source of future population increase in the republic. The principal source is obviously to be not the 35,000,000 persons descended from the population enumerated in 1790, but the 32 millions specified in the preceding pages of this paper as composed of the persons or descendants of persons who have cast in their lot with the nation during the past century. Of this number two-thirds were enumerated in 1900 as either foreigners or as the children of persons born in foreign countries. Hence the responsibility for population increase is being shuffled off upon the lower or newer elements of society.

Do not these facts indicate that from this time forward there is reason to expect an increasing drift away from Anglo-Saxon lineage and possibly from Anglo-Saxon ideals, as the later or foreign element overtakes and passes the native stock? The result may prove an advance. No man can tell. Moreover, the change will doubtless become more rapid and pronounced, since those whom we have assimilated, and perhaps not wholly, must themselves take up the task of assimilating others.

No man can define the full significance of the declining birth rate, but this paper has failed in its purpose if it has not impressed one serious fact upon the reader: the change in the direction from which, in the future, population increase is principally to be drawn. It is not necessary that population in the United States should increase more rapidly than it has been increasing; it is not necessary, indeed, that it should increase at all—but as increase diminishes it is imperative for the stability of the nation that quality should continue at least as good as that of the stock which established and nurtured the republic.